

USER MANUAL

Dewar Series



phasetwo®

www.phasetwoCCS.com



Safety First



This manual details safety precautions and handling procedures that must be understood before using the device. Be sure to review entire manual before using any cryogenic dewar.

A replacement manual can be downloaded from the website or ordered from your supplier as needed at any point in time.

Store and use these containers only in well ventilated areas.



In a confined area, nitrogen gas from these units may cause suffocation by displacing breathable air.

Installing an oxygen monitor is recommended.



The liquid nitrogen in these containers is extremely cold -196°C (-320°F).

DO NOT touch liquid nitrogen or cold metal surfaces with your bare skin. Exposure of skin or eyes to liquid, cold gas or frosted parts could result in a severe frostbite injury.



Because of the extremely low temperature, a face shield and protective gloves must be worn when transferring liquid nitrogen out of these containers.



A tight-fitting plug or stopper will cause a pressure increase in the container that may damage the container and/or cause personal injury.



Disposal of liquid nitrogen should only be done outdoors or in areas specifically designed for that purpose. Pour the liquid slowly on gravel or bare earth where it can evaporate without causing damage.



Technical specifications

| D-Series Model | D5 | D10 | D25 | D35 | D50 |
|----------------------------|------------|------------|------------|-------------|------------|
| LN2 Capacity (L) | 5 | 10 | 25 | 35 | 50 |
| Outer Diameter (in/mm) | 9.2(234) | 11.4(290) | 14.5(368) | 18.8 (448) | 18.8 (448) |
| Overall Height (in/mm) | 15.34(390) | 23.8(603) | 25.9(657) | 26.1 (663) | 32.6 (828) |
| Neck Opening (in/mm) | 1.40(36) | 2.19(56) | 2.5(64) | 2.5 (64) | 2.5 (64) |
| Weight Empty (lbs/kg) | 6.6(3.0) | 15.0(6.80) | 25(11.3) | 35 (15.9) | 39 (17.7) |
| Weight Full (lbs/kg) | 15.5(7.0) | 32.8(14.9) | 64.6(29.3) | 97.4 (44.3) | 128 (58.2) |
| Evaporation Rate (L/day) | 0.4 | 0.21 | 0.23 | 0.23 | 0.41 |
| Static Holding Time (days) | 13 | 47 | 120 | 152 | 122 |

1. Evaporation Rate and Static Holding Time are nominal. Actual Evaporation rate and static holding time will be affected by application, atmospheric conditions, and manufacturing tolerances.

Note: For guidance regarding NER, please contact technical support or your supplier.



Operations

Filling:

The filling of liquid dewars must be carried out by an approved member of the team.

Be sure there is adequate ventilation. Adding liquid nitrogen to a warm container may cause splashing and will generate a significant volume of nitrogen gas.

Note - Add liquid nitrogen slowly to minimize these effects.

Keep your head clear of the heavy volume of nitrogen vapor that may be produced. It is extremely cold and could cause personal injury.



WARNING: DO NOT OVERFILL.

Over-filling may result in personal injury due to liquid nitrogen spillage.

CAUTION: When filling the unit, avoid liquid nitrogen coming in contact with the vacuum plug. Do not pour the liquid nitrogen on the same side of the vacuum plug

Determining Liquid Level:

Use a dipstick to determine liquid level by inserting it vertically into the container so that it rests on the bottom of the unit.

After 5 to 10 seconds, withdraw the dipstick and wave it in the air. A frost line will form representing the depth of liquid in the container.

The frost line will typically be U-shaped; read the bottom of the U-shaped line to determine liquid level.



CAUTION: Never use a hollow rod or tube to determine the liquid level. When a warm hollow rod or tube is inserted into liquid nitrogen, liquid will exit from the top of the tube and may cause personal injury.

Inserting or using liquid withdrawal device (LWD):

The neckplug should remain in the container when the stored liquid is not being accessed to prevent unnecessary loss of liquid nitrogen and accumulation of ice.

Dewar units D25, D35 and D50 can be fitted with withdrawal device for dispensing or transferring liquid nitrogen. The liquid withdrawal device (LWD) manual provides necessary instructions.



Care & Maintenance

1. DO NOT attempt to fasten the container during transportation.
2. Welding, brazing, and/or piercing of the container in any manner will cause permanent damage and will void the limited warranty.
3. Although the units are rugged, they can be damaged if mishandled.
4. Ensure the cryogenic dewar is upright at all times and when in use.
5. D25, D35 and D50 dewars are recommended for using liquid withdrawal device. D5 and D10 devices are tipped with caution while dispensing the liquid nitrogen.
6. If high evaporation rates are apparent under normal operating conditions the dewar may be losing its vacuum or a defective neck plug or the neck tube has adsorbed water/ice.
7. Sweating and the formation of frost on the outer casing are indications that the vacuum integrity of the dewar is not normal.



If these conditions persist, contact your supplier or phase two customer service department at, +1 770-985-1313

E-mail us at customerservice@phasetwoocs.com for information on how to conduct a NER test.



Returns

Limited warranty: Manufacturing defects are covered under the containers limited warranty.

Evidence of mishandling, such as dents on the outer vessel or misalignment of the inner vessel are not considered manufacturing defects.

If you would like to return goods to phasetwo for any reason, you must first obtain a Material Return Authorization (MRA) number for tracking purposes.

Please have the unit serial number and symptoms available.

Contact your supplier or call phasetwo's Customer Service Department at +1 770.985.1313 or email us at customerservice@phasetwoccs.com



Accessories & Replacement parts

Ordering Information: Order replacement parts and accessories from your local distributor.

For more information or the name of your local distributor, contact phase two at the phone number or email listed below.



Contact us

United States : + 1 770.985.1313

Sales support/order placement : customerservice@phasetwoccs.com

Technical Services : techservices@phasetwoccs.com



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